

## **Environmental Studies Program: Ongoing Studies**

**Study Area(s):** Western and Central Gulf of Mexico OCS planning areas, and North Slope Borough of State of Alaska OCS

**Administered By:** Headquarters

**Title:** Year 2017 OCS Emissions Inventory Study (NSL #GM-16-04)

**BOEM Information Need(s) to be Addressed:** The collection and compilation of an emissions inventory for Outer Continental Shelf (OCS) sources is imperative, in that it not only provides BOEM the essential tools to comply with the Congressional mandate to coordinate air pollution control regulations between OCS offshore and states onshore sources, but also provides BOEM the essential tools needed to assess OCS offshore oil and gas activities impacts to the states as mandated by the Outer Continental Shelf Lands Act (OSCLA) and provides the states the essential tools needed to perform their State Implementation Plan (SIP) demonstration to the U.S. Environmental Protection Agency (USEPA). Lastly, this emissions inventory will be useful for compliance with USEPA's Greenhouse Gas Reporting Rule.

**Total Cost:** (in thousands) \$826

**Period of Performance:** FY 2016-2019

**Conducting Organization(s):** Eastern Research Group, Inc. and COMM Engineering

**Principal Investigator(s):** Darcy Wilson, darcy.wilson@erg.com

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### **Description:**

**Background:** The 1990 Clean Air Act Amendments (CAAA) requires the USEPA to set the National Ambient Air Quality Standards (NAAQS) for widespread pollutants from numerous and diverse sources considered harmful to public health and the environment. The law also requires the USEPA to periodically review the standards to ensure that they provide adequate health and environmental protection, and to update those standards as necessary. The USEPA has set standards for six primary pollutants. Areas that do not meet the NAAQS are designated as non-attainment areas by the USEPA.

There are multiple reasons the BOEM needs an offshore calendar year 2017 emissions inventory. First, an emissions inventory will be available to assist states and other organizations in conducting modeling for non-attainment areas and regional haze issues. Second, the collection and compilation of an air emissions inventory is one of the tasks that BOEM conducts to assure coordination of air pollution control regulations between Outer Continental Shelf (OCS) offshore sources and State's sources onshore (as per Section 328(b) of the 1990 CAAA). Next, the proposed offshore emissions inventory will include calculations of greenhouse gas emissions that will assist the OCS operators

with their mandatory reporting of greenhouse gases to the USEPA. Lastly, the emissions inventory will provide BOEM an accurate inventory to compute emission amounts, analyze emissions trends, and input into necessary air quality modeling impact assessments, which will all be documented in the BOEM's National Environmental Policy Act (NEPA) documents, and as required by OCSLA.

**Objectives:** The purpose of this study is to develop a year 2017 air emissions inventory of OCS sources (platform and non-platform) not only gulf-wide but also to include sources in the North Slope Borough of the State of Alaska, including estimates of carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), hydrocarbons (VOC), lead (Pb), ammonia (NH<sub>3</sub>), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), CO<sub>2</sub> equivalent, and appropriate hazardous air pollutants (HAPs) to support states in writing their SIPs, to support operators in their mandating reporting of greenhouse gases to the USEPA, and to support BOEM in their regulatory responsibility under OCSLA to perform impact assessments.

**Methods:** The contractor will collect and compile emissions activity data from the platform and non-platform sources on the OCS, will obtain the most recent emissions factors per source per pollutant, and will calculate all emissions of the air pollutants, as above. Some of the platform sources include diesel engines, drilling equipment, combustion flares, fugitives, glycol dehydrators, natural gas engines, natural gas turbines, pneumatic pumps, storage tanks, and cold vents. In addition, activity data from non-platform sources will be collected using Automatic Identification System (AIS), surveys, or other appropriate sources, and emissions will be calculated using the most recent emissions factors per source. Some of the non-platform sources include drilling rigs, pipelaying sources, support helicopters, support vessels, survey vessels, and stimulation vessels hydraulic fracturing emissions. The contractor will quality control and assure all data collected. The contractor will calculate a total emissions inventory by source and by pollutant and generate emissions inventory databases that will comply with USEPA current formats, along with graphs and maps.

**Current Status:** BOEM has published Notice to Lessees (NTL) No. 2016-No3, which details the operators must collect activity data from all OCS platform sources using the GOADS software for calendar year 2017 and submit this data to BOEM by April 17, 2018. Posted on BOEM's website is the updated GOADS software, GOADS User's Guide, NTL, and FAQs, plus an email for emissions inventory related questions. The contractor is currently providing GOADS software ongoing support, including processing operator requested static data requests and has started receiving operator supplied activity data.

**Final Report Due:** August 31, 2019

**Publications Completed:** None

**Affiliated WWW Sites:** <https://www.boem.gov/Gulfwide-Offshore-Activity-Data-System-GOADS/>

**Revised Date:** February 5, 2018